

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An antenna device comprising:

a resonance element array having a plurality of resonance elements arranged therein, and having a circuit connected to each of the resonance elements for controlling a resonance frequency of the resonance elements;

a plurality of primary radiators for radiating an electromagnetic wave for excitation to the resonance element array or for receiving an electromagnetic wave radiated from the resonance element array elements, each of the plurality of primary radiators being allocated to a respective portion of the plurality of resonance elements;
and

a lens or reflector collimator disposed such that the position of the resonance element array is substantially a focus plane.

2. (Currently amended) An antenna device comprising:

a resonance element array having a plurality of resonance elements resonating at a fixed frequency arranged therein, and having variable reactance circuits connected to the resonance elements, respectively, whose reactance is changed by an applied voltage;

a voltage control adapted to be applied to the variable reactance circuits;

a plurality of primary radiators for radiating an electromagnetic wave for excitation to the resonance element array or for receiving an electromagnetic wave radiated from the resonance element array elements, each of the plurality of primary radiators being allocated to a respective portion of the plurality of resonance elements;
and

a lens or reflector collimator disposed such that the position of the resonance element array is substantially a focus plane.

3. (Currently amended) An antenna device as claimed in claim 2, wherein, ~~by controlling an applied voltage to the variable reactance circuits,~~ the control portion is operative to control an applied voltage to the variable reactance circuits so as to cause at least one of the plurality of resonance elements to ~~makes a resonance element at a fixed position operate as a wave director and changes the resonance element at the fixed position to another resonance element at another position.~~

4. (Currently amended) An antenna device as claimed in claim 1, wherein the ~~antenna device includes a~~ plurality of primary radiators are arranged so that ~~the a~~ radiation position to the resonance element array ~~may be~~ is optimized or ~~the a~~ position for receiving ~~an~~ the electromagnetic wave radiated from the resonance element array ~~may be~~ is optimized.

5. (Canceled)

6. (Currently amended) An antenna device as claimed in claim 1 , wherein the plurality of resonance elements ~~comprises~~ comprise linear conductors extending substantially perpendicular to ~~the an~~ arrangement direction thereof and parallel to each other.

7. (Currently amended) An antenna device as claimed in claim 1 , wherein the plurality of resonance elements ~~comprises~~ comprise linear conductors ~~extending~~

arranged substantially at a 45 degree angle relative to an ~~degrees tilted to the~~
arrangement direction thereof and parallel to each other.

8. (Currently amended) An antenna device as claimed in claim 2 , wherein a variable capacitance diode ~~changing the~~ that changes a load reactance to the resonance element is contained in the variable reactance circuits, and wherein the control applies a reverse bias voltage to the variable capacitance diode.

9. (Currently amended) An antenna device as claimed in claim 2 , wherein a switching element for switching ~~the~~ a load reactance to the resonance element is contained in the variable reactance circuits, and wherein the control applies a control voltage to the switching element.

10. (Currently amended) An antenna device as claimed in claim 2 , wherein an MEMS element where ~~the~~ a distance between electrodes is changed by a control voltage is contained in the variable reactance circuits, and wherein the control applies a the control voltage to the MEMS element.

11. (Currently amended) An antenna device as claimed in claim 9, wherein the switching element is an MEMS element ~~where a switching control between electrodes is performed by a control voltage.~~

12. – 14. (Canceled)

15. (Currently amended) An antenna device as claimed in claim 2, wherein the ~~antenna device includes a~~ plurality of primary radiators are arranged so that ~~the~~ a radiation position to the resonance element array ~~may be~~ is optimized or ~~the~~ a position

for receiving ~~an~~ the electromagnetic wave radiated from the resonance element array
~~may be~~ is optimized.

16. (Currently amended) An antenna device as claimed in claim 2, wherein the plurality of resonance elements ~~comprises~~ comprise linear conductors extending substantially perpendicular to ~~the~~ an arrangement direction thereof and parallel to each other.

17. (Currently amended) An antenna device as claimed in claim 1, wherein the plurality of resonance elements ~~comprises~~ comprise linear conductors ~~extending~~ arranged substantially at a 45 degree angle relative to an ~~degrees tilted to the~~ arrangement direction thereof and parallel to each other.

18. – 20. (Canceled)